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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,362	08/20/2003	Kenneth W. Paist	Paist 1-1	6405
46900	7590	10/19/2004	EXAMINER	
STEVE MENDELSON			NGUYEN, HAI L	
MENDELSON & ASSOCIATES, P.C.			ART UNIT	
1515 MARKET STREET, SUITE 715			PAPER NUMBER	
PHILADELPHIA, PA 19102			2816	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,362

Applicant(s)

PAIST ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features indicated that the “the spreading profile controller receives a signal indicating whether spreading is enabled and, if spreading is not enabled, suspends calculating divisor values”, in claim 5, and “the spreading profile controller is adapted to select one of the plurality of spreading profiles”, in claim 9, must be shown or the claimed limitation canceled from the claim(s). No new matter should be entered. For example, the details of such claimed function is not seen in the drawings, it is not clear as currently defined, how the spreading profile controller suspends calculating divisor values operation when it receives a signal indicating spreading is not enabled.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the recited limitations “the spreading profile controller receives a signal indicating whether spreading is enabled and, if spreading is not enabled, suspends calculating divisor values”, in claim 5, and “the spreading profile controller is adapted to select one of the plurality of spreading profiles”, in claim 9, are not supported either by the disclosure or the drawings. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

3. Claims 4 and 6-8 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The method “for the spreading profile controller calculates the new divisor value by the steps of: (1) testing whether the spreading profile is up spreading or down spreading; if the spreading profile is up spreading, then (2) adding a slope value to the divisor to generate the new divisor, and if the spreading profile is down spreading, then (3) subtracting the slope value from the divisor to generate the new divisor” of claim 4

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cannot further define an apparatus claim. Furthermore, “a fractional accumulation method” of claim 6 cannot further define the fractional divider in claim 1.

4. Claims 2-10 and 12-20 are objected to because of the following informalities:

“The invention”, on the first line of claims 2-10, should be changed to --The signal generator circuit--; and

“The invention”, on the first line of claims 12-20, should be changed to --The method--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 4-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 4, the recited limitations “(1) testing whether the spreading profile is up spreading or down spreading; if the spreading profile is up spreading, then (2) adding a slope value to the divisor to generate the new divisor, and if the spreading profile is down spreading, then (3) subtracting the slope value from the divisor to generate the new divisor” is not enabled by the present specification because it is not understood how the spreading profile controller can perform that claimed function such as for carrying out those steps of a method of calculation; in claim 5, the recited limitations “the

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spreading profile controller receives a signal indicating whether spreading is enabled and, if spreading is not enabled, suspends calculating divisor values” is not enabled by the present specification because it is not understood how the spreading profile controller can perform that claimed function; the recited limitation “the fractional divider is adapted to implement a fractional accumulation method”, in claim 6, is not enabled by the present specification because with such an arrangement it is not understood how the fractional divider can perform that claimed function such as for carrying out the fractional accumulation method; and the recited limitation “the spreading profile controller is adapted to select one of the plurality of spreading profiles”, in claim 9, is not enabled by the present specification; note the above discussion with regard to claim 5.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 4 and 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is indefinite because of the recited limitations “testing whether the spreading profile is up spreading or down spreading; if the spreading profile is up spreading, then (2) adding a slope value to the divisor to generate the new divisor, and if the spreading profile is down spreading, then (3) subtracting the slope value from the divisor to generate the new divisor”. Those limitations are the steps of a method of calculating which cannot serve to define patentably over the prior art, because claim 4 is an apparatus claim and only positively recited structural limitations can distinguish a claim over the prior art.

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Claims 6-8 are similarly indefinite because of the recited limitations "a fractional accumulation method"; note the above discussion with regard to claim 4.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. Claims 4 and 6-8 are rejected under 35 U.S.C. 101, as being directed to neither an "apparatus" nor a "method", but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-3, 9, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyabe (US 6,559,698).

With respect to claim 1, Miyabe discloses in Fig. 1 a signal generator circuit comprising a spreading profile controller (2) adapted to calculate, in real time, a divisor value in accordance with a spreading profile characterized by a function; and a fractional divider (15) dividing an

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output signal of the signal generator circuit by the divisor value; wherein the signal generator is adapted to adjust, based on the divided output signal and a reference signal (4), a frequency of the output signal (14) of the signal generator circuit; and wherein the spreading profile controller is adapted to calculate one or more new divisor values in accordance with the spreading profile, and wherein the spreading profile controller calculates each of the one or more new divisor values so as to vary the frequency of the output signal of the signal generator circuit in accordance with the spreading profile, and wherein the output signal of the signal generator circuit is generated without discontinuities in the varied frequency.

With regard to claims 2 and 3, the reference also meets the recited limitations in this claim (see Fig. 2A, and column 5, line 16 through column 6, line 38).

With regard to claim 9, the reference also meets the recited limitations in this claim (see Figs. 2A, 2(B), 2(22), 2(12) and column 6).

With regard to claim 10, the reference also meets the recited limitations in this claim (see column 4).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyabe in view of Elliott (US 6,628,276).

The above discussed circuit of Miyabe meets all of the claimed limitations except for the limitation that the spreading profile controller receives an enable signal. Elliott teaches in Fig. 7 a circuit having an enable signal (704) for activating or de-activating of the operation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to utilize that teaching of Elliott in the spreading profile controller of Miyabe for the advantage providing an optimum operation.

Allowable Subject Matter

15. Claims 11-20 are allowed.

The prior art of record fails to disclose or fairly suggest a method of implementing a signal generator, as recited in claim 11, comprising the steps of (a) calculating a divisor value in real time in accordance with a spreading profile characterized by a function; (b) dividing an output signal of the signal generator by the divisor value; and specifically the steps of (c) adjusting, based on the divided output signal and a reference signal, a frequency of the output signal of the signal generator, (d) calculating a new divisor value in accordance with a spreading profile; and (e) repeating steps (a) through (d) so as to vary the frequency of the output signal of the signal generator in accordance with the spreading profile without discontinuities in the slewed frequency.

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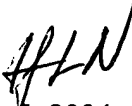
Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Booth et al. (US 5,872,807) is cited as of interest because it discloses a Spread spectrum clock generator and associated method.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

HLN 
October 5, 2004


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
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